

Figure 5—Decision Tree: Choosing a Deployment Model

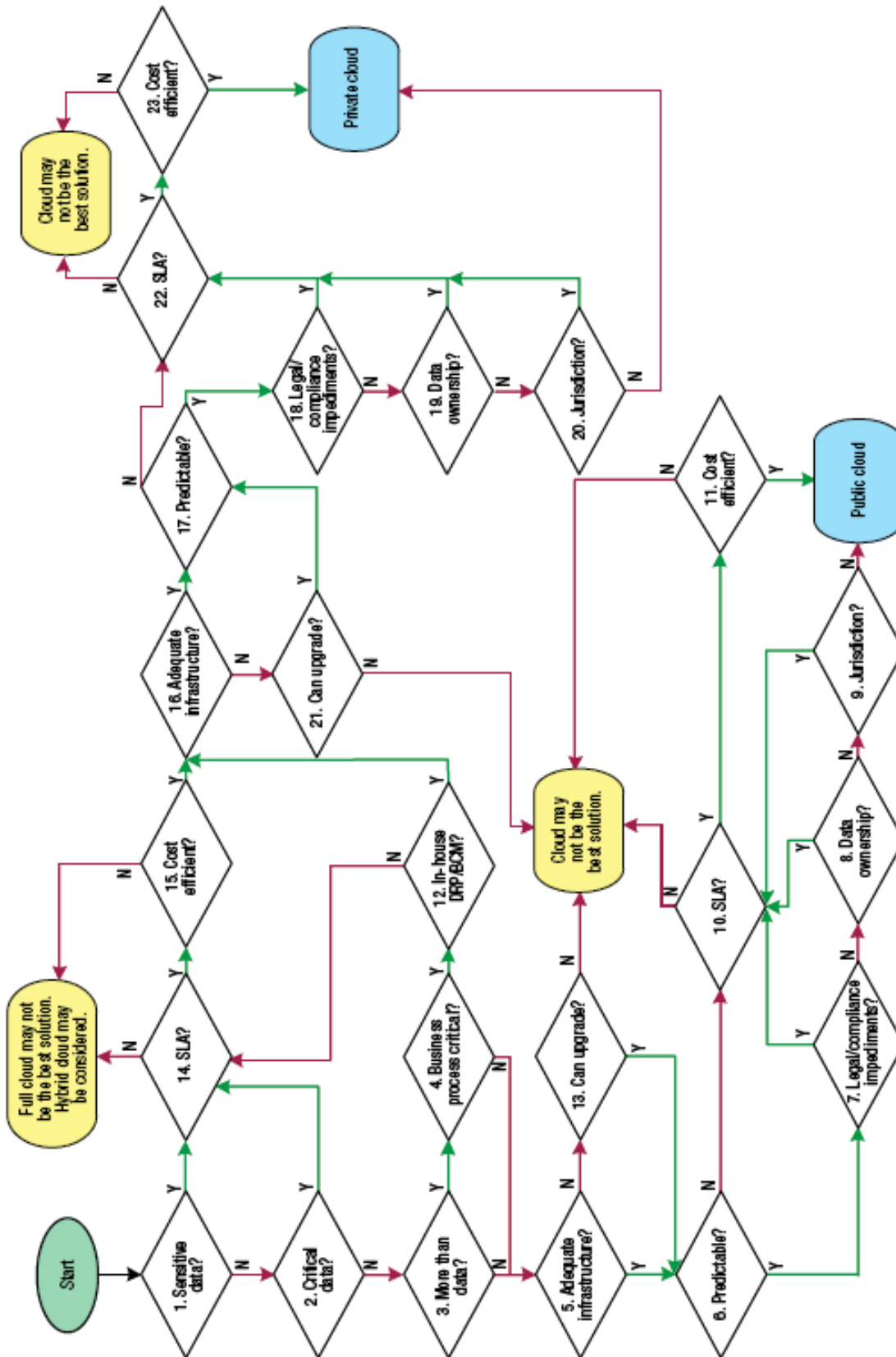


Figure 6—Breakdown of Cloud Deployment Decision Tree

Answer	Explanation	Next Question
1. Sensitive data?		
Yes	When considering a move to a cloud infrastructure it is very important to be aware what data are to be released to the cloud. It is impossible to envision all potential risk and threats; however, data of a sensitive nature can be placed in the cloud when the necessary controls to protect them are in place and work effectively.	Question 14: SLA?
No	If data are not sensitive or if not data upload to the cloud is required, the first steps toward the cloud are taken	Question 2: Critical data?
2. Critical data?		
Yes	Critical data can be: <ul style="list-style-type: none"> • Blueprints • Formulas • Trade secrets • Any information absolutely necessary for the enterprise to operate Critical data can be placed in the cloud when necessary controls to protect them are in place and working effectively. It is important to note, however, that some of these controls can be expensive and complex, which may increase the cost of moving to the cloud.	Question 14: SLA?
No	Noncritical data can be easily placed in the cloud.	Question 3: More than data?
3. More than data?		
Yes	In almost all cases the decision to move to the cloud is not restricted to solely the data. Data in the cloud are often needed to run application or as part of business processes.	Question 4: Business process critical?
No	If the decision to move to the cloud is limited to data only, the next step is to evaluate the enterprise's readiness for this move.	Question 5: Adequate infrastructure?
4. Business process critical?		
Yes	To make a sound decision, it is imperative to determine whether data and applications hosted in the cloud support critical business processes. This information will help determine the requirements that the cloud solution must satisfy.	Question 12: In-house DRP/BCM?
No	When a business process or supporting application is not considered critical, it may be easier to move to the cloud.	Question 5: Adequate infrastructure?
5. Adequate infrastructure?		
Yes	A move to the cloud is a step toward reducing the enterprise's IT infrastructure; however, proper planning is needed prior to adopting a cloud solution. Some things to consider as part of the readiness assessment include: <ul style="list-style-type: none"> • Connectivity to the CSP (bandwidth, redundancy) • Network security (data encryption during transfer) • Integration between cloud and noncloud systems • User connectivity (bandwidth to the desktop or mobile devices) 	Question 6: Predictable?
No	If it is determined that the current enterprise infrastructure is not ready to integrate with the cloud, the next step is to determine whether the business needs are greater than the cost to upgrade (feasibility analysis).	Question 13: Can upgrade?
6. Predictable?		
Yes	As part of the readiness assessment the enterprise must determine how business processes function and mature. This information can help anticipate capacity fluctuation (up or down) that must be part of the contract with the CSP.	Question 7: Legal/compliance impediments?
No	When the enterprise cannot anticipate capacity fluctuations, further analysis may be needed. Flexibility and scalability are two of the cloud characteristics that make it attractive—a flexible SLA may be the solution until the enterprise has more refined requirements.	Question 10: SLA?

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Answer	Explanation	Next Question
7. Legal/compliance impediments?		
Yes	<p>There may be legal or compliance reasons why data or certain business functions cannot be moved to the cloud.</p> <p>It is important for the CSP to implement the necessary controls to ensure the enterprise’s legal and compliance continuity. The CSP must be able to provide proof of compliance as reported by a neutral audit or control body.</p> <p>Identification of legal or compliance limitations must be addressed during contract negotiations to stipulate the enterprise’s expectation and how they will be satisfied.</p>	Question 10: SLA?
No	If the enterprise does not have any legal or compliance impediments, the next steps to move to the cloud can be taken.	Question 8: Data ownership?
8. Data ownership?		
Yes	<p>The contract with the CSP should clearly stipulate that the enterprise is, and will remain, the data owner. It is equally important that this ownership be maintained throughout the entire data life cycle. Therefore, the contract should also outline the requirements to dispose of data in an adequate manner when the enterprise deems necessary.</p> <p>If data ownership cannot be properly established, the enterprise may choose to move only nonsensitive and noncritical data.</p>	Question 10: SLA?
No	If the enterprise can clearly define data ownership during contract negotiations, the next steps to move to the cloud can be taken.	Question 9: Jurisdiction?
9. Jurisdiction?		
Yes	<p>Even though data ownership resides with the enterprise, local and international laws often forbid the transfer of certain data to countries that have conflicting laws or regulations. Therefore, it is important for the enterprise to know the location of the CSP’s data storage facilities and data processing centers to prevent legal infractions.</p> <p>It is advisable for the enterprise to include in the contract with the CSP the necessary clauses requiring the CSP to limit service locations to those approved by the enterprise.</p>	Question 10: SLA?
No	If the enterprise does not have jurisdiction limitation, the cloud may be a proper solution.	Solution: Public cloud
10. SLA?		
Yes	<p>The enterprise must determine in advance the terms that will be included in the SLA keeping in mind that strict or complex SLAs could result in higher maintenance cost.</p> <p>Some of the terms that should be negotiated and documented in the SLA include:</p> <ul style="list-style-type: none"> • Availability • Response time for additional computing resources requests • Response time for incidents • Backup policies • Data retention and disposal policies and procedures • Path management • Security controls • Recovery and continuity objectives • Controls to satisfy legal and compliance requirements 	Question 11: Cost efficient?

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Answer	Explanation	Next Question
No	<p>If an adequate SLA cannot be agreed upon, moving to the cloud could pose an unacceptable level of risk.</p> <p>If the cost of the SLA is greater than the business driver, the cloud solution may not be the best solution.</p>	Solution: Cloud computing may not be the best solution for your current needs.
11. Cost efficient?		
Yes	Two of the principal goals of moving to the cloud are becoming more cost effective and being able to react more quickly and inexpensively to changing situations.	Solution: Public cloud
No	Unless the business driver is greater than the cost, an expensive solution may not be the right option.	Solution: Cloud computing may not be the best solution for your current business needs.
12. In-house DRP/BCM?		
Yes	<p>This question may already be addressed in the SLA, but the enterprise must still be ready to consider additional DR and BC plans. A disaster occurring within the CSP is likely to cause an impact on the enterprise's operations. For example, routes will change and entry points will be altered, causing delays in operations. If a disaster takes place within the enterprise, maintaining or reestablishing connectivity with the CSP should be a critical part of the recovery efforts.</p> <p>Enterprises whose data reside only on the cloud should create backups to their own premises to retain recovery and continuity capabilities even if the CSP is completely offline.</p>	Question 16: Adequate infrastructure?
No	Relying solely on the DRP/BCM capabilities of the CSP can expose the enterprise to extended business outages; however, if the cost of having an in-house DRP is greater than the business driver, the enterprise may address this question in a more strict SLA.	Question 14: SLA?
13. Can upgrade?		
Yes	If it is determined that the current enterprise infrastructure is not ready to integrate with the cloud, the next step is to determine whether the business needs are greater than the cost to upgrade (feasibility analysis).	Question 6: Predictable?
No	If the cost to upgrade the current infrastructure is greater than the business needs, the cloud may not be a solution yet.	Solution: Cloud computing may not be the best solution for your current business needs.
14. SLA?		
Yes	<p>The enterprise must determine in advance the terms that will be included in the SLA keeping in mind that strict or complex SLAs could result in higher maintenance cost.</p> <p>Some of the terms that should be negotiated and documented in the SLA include:</p> <ul style="list-style-type: none"> • Availability • Response time for additional computing resources requests • Response time for incidents • Backup policies • Data retention and disposal policies and procedures • Path management • Security controls • Recovery and continuity objectives • Controls to satisfy legal and compliance requirements 	Question 15: Cost efficient?

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Answer	Explanation	Next Question
No	<p>If an adequate SLA cannot be agreed upon, moving to the cloud could pose an unacceptable level of risk.</p> <p>If the cost of the SLA is greater than the business driver, the cloud solution may not be the best solution.</p>	Solution: Full cloud may not be the best solution. Hybrid cloud may be considered.
15. Cost efficient?		
Yes	Two of the principal goals of moving to the cloud are becoming more cost effective and being able to react more quickly and inexpensively to changing situations.	Question 16: Adequate infrastructure?
No	Unless the business driver is greater than the cost, an expensive solution may not be the right option.	Solution: Full cloud may not be the best solution. Hybrid cloud may be considered.
16. Adequate infrastructure?		
Yes	<p>A move to the cloud is a step toward reducing the enterprise's IT infrastructure; however, proper planning is needed prior to adopting a cloud solution. Some things to consider as part of the readiness assessment include:</p> <ul style="list-style-type: none"> • Connectivity to the CSP (bandwidth, redundancy) • Network security (data encryption during transfer) • Integration between cloud and noncloud systems • User connectivity (bandwidth to the desktop or mobile devices) 	Question 17: Predictable?
No	If it is determined that the current enterprise infrastructure is not ready to integrate with the cloud, the next step is to determine whether the business needs are greater than the cost to upgrade (feasibility analysis).	Question 21: Can upgrade?
17. Predictable?		
Yes	As part of the readiness assessment the enterprise must determine how business processes function and mature. This information can help anticipate capacity fluctuation (up or down) that must be part of the contract with the CSP.	Question 18: Legal/compliance impediments?
No	When the enterprise cannot anticipate capacity fluctuations, further analysis may be needed. Flexibility and scalability are two of the cloud characteristics that make it attractive—a flexible SLA may be the solution until the enterprise has more refined requirements.	Question 22: SLA?
18. Legal/compliance impediments?		
Yes	<p>There may be legal or compliance reasons why data or certain business functions cannot be moved to the cloud.</p> <p>It is important for the CSP to implement the necessary controls to ensure the enterprise's legal and compliance continuity. The CSP must be able to provide proof of compliance as reported by a neutral audit or control body.</p> <p>Identification of legal or compliance limitations must be addressed during contract negotiations to stipulate the enterprise's expectation and how they will be satisfied.</p>	Question 22: SLA?
No	If the enterprise does not have any legal or compliance impediments, the next steps to move to the cloud can be taken.	Question 19: Data ownership?

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Answer	Explanation	Next Question
19. Data ownership?		
Yes	<p>The contract with the CSP should clearly stipulate that the enterprise is, and will remain, the data owner. It is equally important that this ownership be maintained throughout the entire data life cycle. Therefore, the contract should also outline the requirements to dispose of data in an adequate manner when the enterprise deems necessary.</p> <p>If data ownership cannot be properly established, the enterprise may choose to move only nonsensitive and noncritical data.</p>	Question 22: SLA?
No	If the enterprise can clearly define data ownership during contract negotiations, the next steps to move to the cloud can be taken.	Question 20: Jurisdiction?
20. Jurisdiction?		
Yes	<p>Even though data ownership resides with the enterprise, local and international laws often forbid the transfer or certain data to countries that have conflicting laws or regulations. Therefore, it is important for the enterprise to know the location of the CSP's data storage facilities and data processing centers to prevent legal infractions.</p> <p>If is advisable for the enterprise to include in the contract with the CSP the necessary clauses requiring the CSP to limit service locations to those approved by the enterprise.</p>	Question 22: SLA?
No	If the enterprise does not have jurisdiction limitation, the cloud may be a proper solution.	Solution: Private cloud
21. Can upgrade?		
Yes	If it is determined that the current enterprise infrastructure is not ready to integrate with the cloud, the next step is to determine whether the business needs are greater than the cost to upgrade (feasibility analysis).	Question 17: Predictable?
No	If the cost to upgrade the current infrastructure is greater that the business needs, the cloud may not be a solution yet.	Solution: Cloud computing may not be the best solution for your current business needs.
22. SLA?		
Yes	<p>The enterprise must determine in advance the terms that will be included in the SLA keeping in mind that strict or complex SLAs could result in higher maintenance cost.</p> <p>Some of the terms that should be negotiated and documented in the SLA include:</p> <ul style="list-style-type: none"> • Availability • Response time for additional computing resources requests • Response time for incidents • Backup policies • Data retention and disposal policies and procedures • Path management • Security controls • Recovery and continuity objectives • Controls to satisfy legal and compliance requirements 	Question 23: Cost efficient?
No	<p>If an adequate SLA cannot be agreed upon, moving to the cloud could pose an unacceptable level of risk.</p> <p>If the cost of the SLA is greater that the business driver, the cloud solution may not be the best solution.</p>	Solution: Cloud computing may not be the best solution for your current business needs.

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Answer	Answer	Answer
23. Cost efficient?		
Yes	Two of the principal goals of moving to the cloud are becoming more cost effective and being able to react more quickly and inexpensively to changing situations.	Solution: Private cloud
No	Unless the business driver is greater than the cost, an expensive solution may not be the right option.	Solution: Cloud computing may not be the best solution for your current business needs.